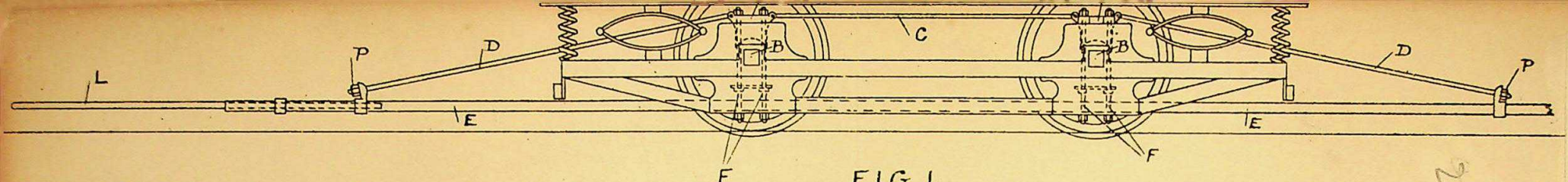

FIG 1.

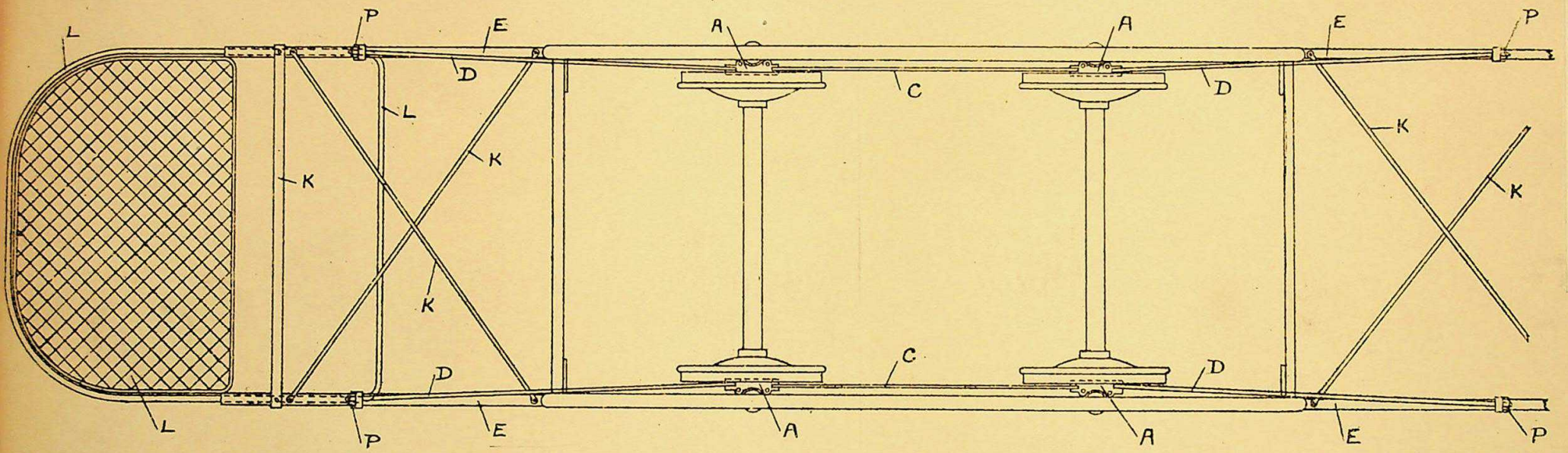

FIG 2

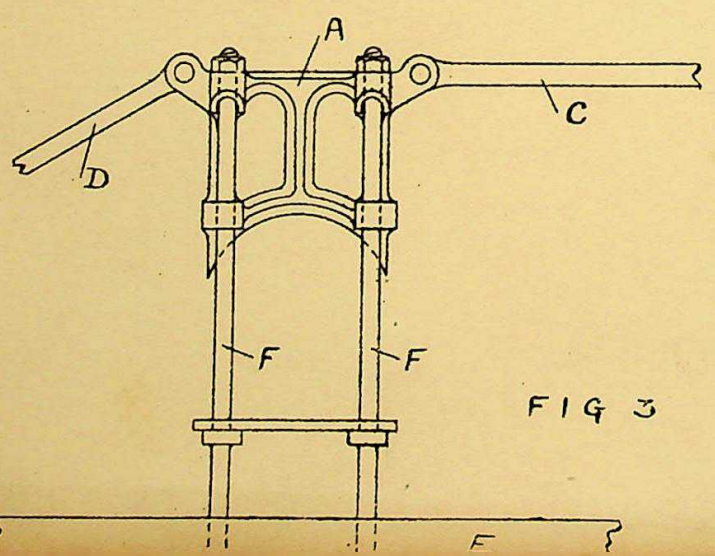

FIG 3

28
28
ENGLISH 27647 1898

fender
fund Cost

34

N° 12,461 A.D. 1898

DUPLICATE

Date of Application, 3rd June, 1898

Complete Specification Left, 2nd Mar., 1899—Accepted, 15th Apr., 1899

PROVISIONAL SPECIFICATION.

Improvements in and in relation to "Fenders" for Electrical and other Tramcars, Motor Cars, and such like Vehicles.

I, JOHN WILLIAM TOWLE, of 68, Lower Gardiner Street, Dublin, Ireland; Electrical Engineer, do hereby declare the nature of this invention to be as follows:—

This invention has reference to improvements in, and in relation to "fenders" for electric tram-cars, motor cars, and such like vehicles.

According to the present practice, the subject of my invention usually consists of a screen, or net work, arranged in a horizontal plane at each end of the vehicle and carried by means of suspenders or trusses attached direct to the body of the vehicle.

As thus carried the longitudinal pitching motion of the vehicle is obviously partaken of by the fender, and in order to prevent same coming in contact with the ground it must be erected at such a height as to considerably impair its efficiency.

Now the object of my invention is to overcome this defect, and to enable the fender to be carried in close proximity to the ground, while its position will be wholly unaffected by the pitching of the vehicle.

To this end I arrange rigidly over the journal boxes suitable saddles or brackets each side pair being connected by a horizontal rod or link.

From the opposite ends of these saddles or brackets are carried projecting trusses the free ends of which are attached to horizontal channel irons projecting longitudinally from the front and rear plates or other suitable part of the truck frame.

These channel irons,—of which there are a pair at each end of the vehicle—are of a suitable length to enable the fender to slide longitudinally underneath the body of the vehicle when not required, and be drawn forward when necessary to act in front of the moving vehicle.

The fender may be an ordinary net work or other suitably constructed frame and it may be held in any required position in the channel iron guides by means of suitable lugs engaging in corresponding slots formed in the channel irons.

As thus constructed and arranged it is obvious that, since my improved fender is carried wholly by the saddles on the journal boxes and the projecting channel irons, it can not be affected by the pitching of the body of the vehicle, and may therefore be suspended close to the ground, thus enabling its maximum efficiency to be readily available.

Dated this 1st day of June 1898.

J. K. FAHIE & SON,
Agents for Applicant, 9, Westland Row, Dublin.

[*Price 8d.*]

COMPLETE SPECIFICATION.

Improvements in and in relation to "Fenders" for Electrical and other Tram-cars, Motor Cars, and such like Vehicles.

I, JOHN WILLIAM TOWLE, of 68, Lower Gardiner Street, Dublin, Ireland; Electrical Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention has reference to improvements in, and in relation to "fenders" for electric tram-cars, motor-cars, and such like vehicles.

According to the present practice, the subject of my invention usually consists of a screen, or net work, arranged in a horizontal plane at each end of the vehicle, and carried by means of suspenders or trusses attached direct to the body of the vehicle.

As thus carried the longitudinal pitching motion of the vehicle is obviously partaken of, by the fender, and in order to prevent same coming in contact with the ground it must be erected at such a height as to considerably impare its efficiency.

Now the object of my invention is to overcome this defect, and to enable the fender to be carried in close proximity to the ground, while its position will be wholly unaffected by the pitching of the vehicle.

To this end I arrange rigidly over the journal boxes at each side of the vehicle suitable saddles or brackets, each side pair being connected by a horizontal rod or link.

From the opposite or free ends of these saddles or brackets are carried projecting trusses the free ends of which are attached to horizontal channel irons running longitudinally from end to end of the vehicle.

These channel irons project a suitable length at each end to enable the fender to slide longitudinally underneath the body of the vehicle when not required, and be drawn forward when necessary to act in front of the vehicle.

The screen of the fender may be an ordinary net work, and the frame of any suitable material.

As thus constructed and arranged it is obvious that, since my improved fender is carried wholly by the saddles or brackets hung on the journal boxes it can not be affected by the pitching of the vehicle, and it may be suspended in close proximity to the ground, thereby enabling its maximum efficiency to be available.

The accompanying drawings will enable the nature and application of my invention to be more readily understood.

Fig. 1 illustrates in elevation the truck frame of an electric tram car with my invention attached thereto showing the "fender" drawn forward on the left hand end, as when in use in front of the vehicle, it being understood that the fender at the opposite end is retired under the body of the car so long as the vehicle is moving in the opposite direction.

Fig. 2 is a plan view of same and

Fig. 3 is an enlarged detail shewing axle box, saddle and bolts.

Similar letters of reference indicate corresponding parts in each of the views.

A, A, are the saddles or brackets hung on the journal boxes B, B, and connected by a horizontal rod C.

D, D, are the trusses supporting the ends of the horizontal channel irons E, E, which latter are carried by the vertical bolts F, F, suspended from the saddles or brackets.

K are stay rods which ensure the rigidity of the free ends of the channel irons.

L is the fender, the frame of which may be of gun metal or other suitable material, and the centre, of any suitable net or wire work.

The fender may be secured in the channel irons at any required position by means of clamp screws provided in the channel irons engaging the fender frame.

The horizontal position of the fender can be adjusted within certain limits by means of lock nuts P, acting on the ends of the trusses D.

As a modification of my invention, I may insert suitable hinges or swivel bolts at a suitable point towards the extremities of the channel irons, and fix the fender permanently in its extended form in which case suitable gun metal may be used instead of the channel irons.

By this arrangement the fender may be folded, or turned up to a vertical position when not in use, as when it forms the rear of the car.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

First: In tram cars and such like vehicles the use and application of a fender constructed, arranged, and operating in the manner substantially as herein described and set forth.

Second: In tram cars and such like vehicles the use of a fender so constructed, and arranged that its horizontal position will be unaffected by the longitudinal pitching motion of the vehicle, substantially as herein described and illustrated in the accompanying drawings.

Dated this 27th day of February 1899.

J. K. FAHIE & SON,
Agents for Applicant, 9, Westland Row, Dublin.

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